

Oda, Ryohel and Hayashi, Yoshiyuki.
SYNTHESES OF SOME HETEROCYCLIC COMPOUNDS
WITH LONG ALKYL SIDE-CHAINS AND THEIR AP-
PLICATIONS AS WATER-REPELLING AGENTS FOR
TEXTILES. [1962] 15p. 7 refs.
Order from SLA \$1.60

62-14966

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64,
no. 7, p. 1230-1233.

DESCRIPTORS: *Textiles, *Moistureproofing, *Hetero-
cyclic compounds, Synthesis, Alkyl radicals, Molecular
structure.

(Materials--Textiles, TT, v. 9, no. 5)

62-14966

I. Oda, R.
II. Hayashi, Y.

62-34498

Office of Technical Services

Takimoto, Masayoshi.
DETERMINATION OF MELAMINE, AMMELINE,
AMMELIDE, AND CYANURIC ACID BY ION-EX-
CHANGE SEPARATION AND ULTRAVIOLET AB-
SORPTIOMETRY. Rept. 8 of Studies on Separation-
Determination Methods for Cyanamide Derivatives.
[1961] 17p.
Order from SLA \$1.60

62-10223

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64,
no. 7, p. 1234-1238.

DESCRIPTORS: *Cyanamides, Amides, Cyanuric acid,
Acids, Melamine, Determination, Separation, Ion
exchange, Chromatographic analysis, Ultraviolet
spectroscopy.

Separations and determination of ammeline, ammelide,
and cyanuric acid, which are formed by the hydrolysis
(Chemistry--Analytical, TT, v. 7, no. 9) (over)

62-10223

I. Takimoto, M.
II. Title: Studies ...

Office of Technical Services

Fukunoto, Oshamu.
ON THE KINETICS OF BECKMANN'S REARRANGE-
MENT. Rept. 4 of Studies on the Production of
ε-Caprolactam. Oct 62, 12p. 5 refs.
Order from SA \$19.00

SA Code-G511

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64,
no. 7, p. 1285-1289.

DESCRIPTORS: *Lactams, Production, Sulfuric acid,
Cyclohexanones, Oximes, Ionization, Dehydration,
*Reaction kinetics.

(Chemistry--Physical, TT, v. 9, no. 1)

63-12094

1. Title: Beckmann's
rearrangement
- I. Fukunoto, O.
- II. Title: Studies...
- III. SA Code-G511
- IV. Seizaburo Aoki (Japan)

Office of Technical Services

The Thermal Expansion and Vitrification of Epoxy
Resins Hardened With Acid Anhydrides, by Akio Shimazaki,
11 pp.
JAPANESE, per, Kogyo Kagaku Zasshi, Vol LXIV,
1961, pp 1291-1294. 9226572
AEC-SC-T-64-2009

Sci-Chem
Jan 65

2721,829

Sulfochlorination of Polypropylene, by
T. Ohshika.
JAPANESE, per, Kogyo Kagaku Zasshi, Vol 64,
No 7, 1961, pp 1299-1302.
ATS-JS-192

Sci-Chem
Mar 70

403,867

62-34464

Sobue, Hiroshi and Saito, Yoshitami.
POLYMERIZATION OF n-BUTYL VINYL ETHER WITH
THE AID OF ZIEGLER CATALYST. Oct 62, 5p.
5 refs.

Order from SA \$15.00

SA Code-G524

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64,
no. 7, p. 1321-1327.

DESCRIPTORS: *Butyl radicals, *Vinyl radicals,
Ethers, Polymerization, Catalysts, Aluminum,
Titanium.

- I. Title: Ziegler catalysts
- I. Sobue, H.
- II. Saito, Y.
- III. SA Code-G524
- IV. Seizaburo Aoki (Japan)

(Chemistry--Organic, IT, v. 8, no. 12)

Office of Technical Services

A Study on the Reducing Reaction of Titanium
Tetrachloride to Titanium Trichloride, by
T. Ishino.

JAPANESE, per, Kogyo Kagaku Zasshi, Vol 64,
1961, pp 1344-1347.

NTC-71-15651-07B

Feb 72

62-14874

Nagase, T. and Kozima, L.
PREPARATION OF PERFLUOROCARBOXYLIC ACIDS
BY ELECTROCHEMICAL FLUORINATION ALCOHOLS.
[1962] 10p. (2 figs. 2 tables 11 refs. omitted).
Order from SLA \$1.10 62-14874

I. Nagase, T.
II. Kozima, L.

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64,
[no. 8] p. 1397-1400.

DESCRIPTORS: *Carboxylic acids, Acetic acids,
Propionic acids, Fluorides, Preparation, *Electro-
chemistry, *Alcohols, Ethanol, Propanols, Butanols,
*Fluorination.

Relatively high yields of perfluorocarboxylic acids have
been obtained by electrochemical fluorination of alcohols.
About 30 g. of ethyl alcohol, n-propyl alcohol, isopropyl
alcohol, or n-butyl alcohol was dissolved in 1 l. of
anhydrous hydrogen fluoride, and electrolyzed at various
(Chemistry--Organic, TT, v. 9, no. 4) (over)

Office of Technical Services

62-16185

Nagase, Shunji.

FLUORINATION OF MALEIC ANHYDRIDE BY
FLUORINE GAS. [1962] 6p. (2 figs. 2 tables

9 Japanese refs. 1 formula omitted) 2 refs.

Order from SLA \$1.10

62-16185

I. Nagase, S.

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64,
no. 8, p. 1400-1403.DESCRIPTORS: *Maleic anhydride, Fluorination,
*Fluorine, Gases, Jets, Towers (Chemistry).

In the direct fluorination of maleic anhydride with
fluorine by means of an improved jet reactor, per-
fluoropropionyl fluoride was obtained at a fairly high
yield rate through successive operations of the re-
actor. This suggests a new method of perfluoro-
propionyl fluoride production. It became apparent
that the use of said reactor makes maleic anhydride
(Chemistry--Organic, TT, v. 8, no. 9) (over)

Office of Technical Services

62-10684

Takimoto, Masayoshi.
SEPARATION OF MELAM AND MELEM, AND
THEIR SIMPLE DETERMINATION BY THE
SPECTROPHOTOMETRIC METHOD. Rept. no. 9 of
Studies on Separation [and] Determination methods
for Cyanamide Derivatives. [1962] 15p. 11 refs.
Order from SLA \$1.60 62-10684

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64,
no. 8, p. 1452-1453.

DESCRIPTORS: *Cyanamides, *Melamine, *Melem,
Separation, *Ion exchange, Spectrographic analysis.

(Chemistry--Analytical, TT, v. 8, no. 11)

- I. Title: Melam
1. Takimoto, M.
- II. Title: Studies...

Office of Technical Services

62-10685

Takimoto, Masayoshi.
INVESTIGATION OF THE SEPARATION AND DETERMINATION OF COMPOUNDS WHICH FORM BY MELAMINE-FORMING REACTION AND BY HYDROLYSIS OF THEIR HEAT-CONDENSATES (CYANOMELAMINE, GUANYLMELAMINE, CYAMELURIC ACID, ETC.). Rept. no. 10 of Studies on Separation [and] Determination Methods for Cyanamide Derivatives. [1962] 15p. 13 refs.
Order from SLA \$1.60 62-10685

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 8, p. 1456-1460.

DESCRIPTORS: *Cyanamides, *Melamine, Separation, Determination, Hydrolysis, Ion exchange resins, Ultraviolet spectroscopy, Absorption spectra, Chromatographic analysis.

(Chemistry--Analytical, TT, v. 8, no. 9)

I. Takimoto, M.
II. Title: Studies ...

Office of Technical Services

Ide, Fumio.
THE MOLECULAR WEIGHT OF POLYMETHYL
METHACRYLATE IN CELLULOSE-METHYL
METHACRYLATE GRAFT COPOLYMER. Rept.
no. 8 of Studies on Vinyl Polymerization. [1962] 15p.
15 refs.

Order from SLA \$1.60

62-10689

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64,
no. 8, p. 1489-1493.

DESCRIPTORS: *Acrylic resins, Polymers, Molecu-
lar weight, *Cellulose, Plastics.

The relationship between the degree of polymeri-
zation and polymerization conditions was investi-
gated with respect to polymethyl methacrylate which
had been isolated by sulfuric acid-hydrolyzing cellu-
lose-methyl methacrylate graft copolymer, which
had been obtained by using ceric ammonium salt as
(Materials--Plastics, TT, v. 8, no. 9) (over)

62-10689

- I. Title: Graft polymers
1. Ide, F.
- II. Title: Studies ...

Office of Technical Services

62-34501

Ishii, Yoshio, Sekiguchi, Jinen, and Hattori, Masaaki.
POLYMERIZATION OF PROPYLENE OXIDE WITH
METAL ALKOXIDES. Rept. 2 of Studies on the
Polymerization of Epoxy-Compounds. Oct 62, 31p.
12 refs.
Order from SA \$30.00 SA Code-G564

Trans. in manuscript of Kogyo Kagaku Zasshi (Japan)
1961, v. 64, no. 8, p. 1497-1501.

DESCRIPTORS: *Epoxides, *Propenes, Oxides, Poly-
merization, Catalysts, Magnesium compounds, Cobalt
compounds, Iron compounds, Aluminum compounds,
Lithium compounds.

(Materials--Plastics, TT, v. 8, no. 12)

- I. Ishii, Y.
- II. Sekiguchi, J.
- III. Hattori, M.
- IV. Title: Studies ...
- V. SA Code-G564
- VI. Seizaburo Aoki (Japan)

Office of Technical Services

63-12095

Hashimoto, Hidehisa and Ito, Mikio.

A RECORDING MICRO THERMOBALANCE. Rept. 7 of Study on the Thermal Degradation of Solid. Oct 62, 26p. 7 refs.

Order from SA \$28.00

SA Code-G572

Trans. in manuscript of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 9, p. 1515-1518.

DESCRIPTORS: *Laboratory equipment, *Recording systems, *Torsion balances, Tungsten wire, Pyrolysis, Solids.

(Engineering--Chemical, TT, v. 9, no. 1)

I. Hashimoto, H.

II. Ito, M.

III. Title: Study...

IV. SA Code-G572

V. Seizaburo Aoki (Japan)

Office of Technical Services

Noda, T. and others.

X-RAY DIFFRACTION PROFILES OF MIXTURES OF
VARIOUS TYPES OF ELECTROGRAPHITIZED CAR-
BON. [1963] [13p] [preface omitted] Srefa
Order from SLA \$1.60

TT-64-14353

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64
no. 9 | p. 1523-1527.

DESCRIPTORS: *Carbon, Graphite, *Carbon black,
X-ray diffraction analysis.

Physics--Solid State, TT, v. 11, no. 9)

TT-64-14353

I. Noda, T.

Office of Technical Services

62-34455

Morikawa, Kiyoshi and Nozaki, Fumio.
REDUCIBILITY BY H_2 , SOLUBILITY IN DILUTE HCl
SOLUTION, AND REACTIVITY OF REDUCED CATA-
LYST WITH CO. Pt. 1 of Surface Composition and
Chemical Properties of the Supported Nickel Catalysts;
Pt. 3 of Study on the Selective Catalytic Action of the
Supported Nickel Catalysts. Oct 62, 24p. 10 refs.
Order from SA \$24.00 SA Code-G585

- I. Morikawa, K.
- II. Nozaki, F.
- III. Title: Surface ...
- IV. Title: Study ...
- V. SA Code-G585
- VI. Seizaburo Aoki (Japan)

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64,
no. 9, p. 1562-1567.

DESCRIPTORS: *Nickel catalysts, Surface properties,
Chemical properties, Hydrogen, Reduction, Hydrochloric
acid, Solubility, Carbon compounds, Monoxides,
Chemical reactions.

(Chemistry--Physical, TT, v. 8, no. 12)

Office of Technical Services

62-34466

Morikawa, Kiyoshi and Nozaki, Fumio.
X-RAY ANALYSIS, INFRARED SPECTRUM ANALYSIS,
AND DIFFERENTIAL THERMAL ANALYSIS.
Pt. 2 of Surface Composition and Chemical Properties of
the Supported Nickel Catalysts; Pt. 4 of Study on the
Selective Catalytic Action of the Supported Nickel
Catalysts. Oct 62, 20p. 12 refs.
Order from SA \$21.00 SA Code-G586

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64,
no. 9, p. 1568-1573.

DESCRIPTORS: *Nickel catalysts, Surface properties,
Chemical properties, X-ray diffraction analysis,
Infrared spectroscopy, Pyrolysis.

(Chemistry-Physical, TT, v. 8, no. 12)

I. Morikawa, K.
II. Nozaki, F.
III. Title: Surface ...
IV. Title: Study ...
V. SA Code-G586
VI. Seizaburo Aoki (Japan)

Office of Technical Services

62-18748

Shigematsu, Hiroshi, Suzuki, Masaji, and Ishii,
Yoshiro.
RATE OF SUCCESSIVE ADDITIONS OF PROPYLENE
OXIDE TO VARIOUS ALCOHOLS. Pt. 4 of [Studies of
the Kinetics on the Ring Opening Addition of Epoxy Com-
pounds to the Active Hydrogen Compound]. [1962] [21]p.
11 refs.
Order from SLA \$2.60

62-18748

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64
[no. 9] p. 1585-1588.

DESCRIPTORS: *Propanes, *Epoxides, *Propenes,
Oxides, *Alcohols, Chemical reactions, Reaction
kinetics, Catalysts, Sodium compounds, Hydroxides

The reaction products of active hydrogen compounds and
propylene oxide have several isomers depending on the
cleavage position in the oxirane ring. The hydroxyl
groups of these isomers may be primary or secondary,
(Chemistry--Physical, TT, v. 10, no. 1) (over)

I. Shigematsu, H.
II. Suzuki, M.
III. Ishii, Y.
IV. Title: Studies...

Office of Technical Services

TT-64-10502

Ohki, Y., Ochiai, M., and Komori, S.
THE REACTIONS OF HIGHER ALIPHATIC
ALCOHOLS WITH ETHYLENE OXIDE USING
TERT.-AMINE CATALYSTS. [1963] 14p 3refs
Order from SLA \$1.60 TT-64-10502

I. Ohki, Y.
II. Ochiai, M.
III. Komori, S.

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64
[no. 9] p. 1585-1592. (Abstract available)

DESCRIPTORS: *Surface-active substances, Synthesis
(Chemistry), *Alcohols, *Ethylene oxide, *Catalysts,
*Amines, Bases (Chemistry), Reaction kinetics,

It was found that tertiary amines are effective catalysts
for the reactions of ethylene oxide with higher fatty
alcohols at lower temperatures. The fact that a
maximum exists at about 80°C suggests a difference in
the catalytic mechanism from the case when KOH is
used. Although the more basic amines exhibit greater
catalytic effect, the steric effect of the amine structure
appears to be a more important consideration. (Author)

(Chemistry--Organic,
TT, v. 11, no. 9)
Office of Technical Services

Taniguchi, H., Funakubo, E., and Kishino, H.
SEPARATION CAPACITY OF SILICA-GEL FOR HYDROCARBONS. 16p.
Order from OTS or ETC \$1.85

62-26136

Trans. of [Kogyo Kagaku Zasshi] (Japan) 1961,
v. 64, no. 9, p. 1620-1623.

DESCRIPTORS: *Hydrocarbons, *Adsorbents,
Silicon compounds, Dioxides.

(Chemistry--Analytical, TT, v. 9, no. 8)

62-26136

I. Taniguchi, H.
II. Funakubo, E.
III. Kishino, H.

Office of Technical Services

PB-

Takamuku, Setsuo and Yahama, Yoshikazu.
ON LIGNIN CARBOHYDRATE COMPLEX ISOLATED
FROM IRRADIATED WOOD POWDER. May 62 [8]p.
(figs. omitted) 11 refs. FPRB Trans. no. 155.
Order from NRCC NRCC C-4405
Trans. of [Kogyo Kagaku Zasshi] (Japan) 1961, v. 64
[no. 9] p. 1662-1664.

DESCRIPTORS: *Lignin, Carbohydrates, *Radiation
effects, Wood, Production, *Wood pulp.

(Materials--Wood, TT, v. 10, no. 3)

63-17539

- I. Takamuku, S.
- II. Yahama, Y.
- III. FPRB Trans-155
- IV. NRCC C-4405
- V. Forest Products Research
Branch (Canada)
- VI. Bureau of Translations
(Canada)

Office of Technical Services

Fukumoto, Osamu.
ON THE IMPURITIES CONTAINED IN ϵ -CAPRO-
LACTAM. Rept. no. 5 of Studies on the Production of
 ϵ -Caprolactam. Oct 62, 9p. 5 refs.
Order from SA \$18.00 SA Code-G610

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64,
no. 9, p. 1668-1670.

DESCRIPTORS: *Lactams, Production, Impurities,
Anilines, Ammonium radicals, Acetates, Nitrobenzenes.

(Chemistry--Organic, TT, v. 8, no. 12)

62-34499

1. Title: Caprolactams
- I. Fukumoto, O.
- II. Title: Studies ...
- III. SA Code-G610
- IV. Seizaburo Aoki (Japan)

Office of Technical Services

62-14967

Ida, Fumio.
GRAFT POLYMERIZATION OF METHYL METHACRY-
LATE ON POLYVINYL ALCOHOL. [1962] 21p. 12 refs.
Order from SLA \$2.60 62-14967

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64,
no. 9, p. 1676-1681.

DESCRIPTORS: *Graft polymers, *Acrylic resins,
Methyl radicals, Polymerization, *Vinyl alcohols,
Catalysts, *Cerium compounds, Salts, Nitric acid.

(Chemistry--Organic, TT, v. 9, no. 4)

1. Toluene
1. 14, 15.

Office of Technical Services

Hashimoto, Shizunobe, Furukawa, Isao, and Yanagawa, Tetsunosuke.

SYNTHESIS OF ORGANO-PHOSPHORUS ACID DIALLYL ESTERS AND THE INFLUENCE OF CHEMICAL STRUCTURE ON THE POLYMERIZATION CHARACTERISTICS AND INFLAMMABILITY OF THEIR POLYMERS. Oct. 62, 17p. 12 refs.

Order from SA \$21.00

SA Code-G613

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 9, p. 1682-1686.

Another trans. is available from SLA \$1.60 as 62-18039 [1962] 20p.

DESCRIPTORS: *Phosphorus acids, Allyl radicals, *Esters, Chlorides, Phosphines, Synthesis, Molecular structure, Polymerization, Inflammable materials, Combustion.

(Chemistry--Organic, TT, v. 8, no. 12)

62-34500

- I. Hashimoto, S.
- II. Furukawa, I.
- III. Yanagawa, T.
- IV. SA Code-G613
- V. Seizaburo Aoki (Japan)

62-18039

Office of Technical Services

Infrared Spectra of Sulfochlorinated Polypropylene,
by T. Oshika.
JAPANESE, per, Kogyo Kagaku Zasshi, Vol 64, No 10,
1961, pp 1855-1859.
ATS-JS-193

Sci-Chem
Mar 70

403,868

52-34502

Ohshika, Takao.

THE THERMAL DEGRADATION OF POLYPROPYLENE
DERIVATIVES. Rept. 9 of Studies on Polypropylene.
Oct 62, 32p. 10 refs.
Order from SA \$30.00

SA Code-G646

Trans. in manuscript of Kogyo Kagaku Zasshi (Japan)
1961, v. 64, no. 10, p. 1859-1864.

DESCRIPTORS: *Propenes, Polymers, Sulfur com-
pounds, Chlorine compounds, Pyrolysis, Infrared
spectroscopy, Reaction kinetics, Chemical bonds.

- I. Ohshika, T.
- II. Title: Studies ...
- III. SA Code-G646
- IV. Setzaburo Aoki (Japan)

(Chemistry--Physical, TT, v. 8, no. 12)

Office of Technical Services

Studies of the Deposition of Carbon in the
Manufacture of Synthetic Gases from Natural
Gas X Composition of Gaseous Products and
Carbon Deposition on the Partial Oxidation
of Methane, by K. Muraosa, 10pp
JAPANESE, per, Kogyo Kagaku Zasshi, Vol 64, 1961,
No 11, pp 1939-1942
SIA TT-64-30140

Sci - Eng
May 67

327,400

Shima, K. and Tsutsumi, S.
PHOTOCHEMICAL REACTION OF METHYL FORMATE IN CYCLOHEXANE. Pt. 3 of Studies of Photochemical Reactions. [1962] 5p.
Order from ATS \$6.50 ATS-85P61J

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 11, p. 1945-1948.

DESCRIPTORS: *Photochemical reactions, Methyl radicals, *Formates, *Cyclohexanes.

(Chemistry--Organic, TT, v. 8, no. 7)

62-22151

- I. Shima, K.
- II. Tsutsumi, S.
- III. Title; Studies ...
- IV. ATS-85P61J
- V. Associated Technical Services, Inc., East Orange, N. J.

Office of Technical Services

Narasaki, Toshio.
SOME PROPERTIES OF CATIONIC POLY-SOAP
MIXTURES WITH NON-IONIC SURFACTANTS. [1962]

9p.

Order from SLA \$1.10

63-10315

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64
[no. 11] p. 1955-1957.

DESCRIPTORS: Polymers, *Soaps, Mixtures, Vinyl
radicals, Ethyl radicals, *Pyridines, *Bromocarbons,
Physical properties, Viscosity, Surface tension,
Colloids, Foams, *Surface-active substances,
*Ethylenes.

Some properties of cationic poly-soap mixtures (nitro-
gen atom in poly- α -vinyl- β -ethylpyridine made
quaternary 29.3% by dodecyl bromide, 36.0% by ethyl
bromide) with several non-ionic surfactants (Polyoxy-
(Materials, TT, v. 10, no. 2) (over)

63-10315

I. Narasaki, T.

Office of Technical Services

Yamashita, Chiaki; Asami, Akiharu and Kuriyama, Sutezo.

AIR OXIDATION OF SP WASTE SOLUTION. [1962]

12p. (figs. tables omitted) 7 refs.

Order from SLA \$1.60

63-10754

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 11, p. 2014-2017.

DESCRIPTORS: Air, Oxidation, Industrial production, Chemical reactions, Organic compounds, Lignin, Wood pulp, *Sulfate pulp, *Wastes (Industrial).

The conditions were examined for manufacturing vanillin from the SP waste solution on an industrial scale by using air as an oxidation agent. It was found that it is possible to manufacture vanillin by using air at just about the same yield as when oxygen is used and that, when the SP waste solution is oxidized in the (Engineering-Chemical, TT, v. 10, no. 2) (over)

63-10754

- I. Title: Vanillin
- I. Yamashita, C.
- II. Asami, A.
- III. Kuriyama, S.

Office of Technical Services

Studies on Application of Spray Dry Process. Part II. Function of Protective Colloids in Powdered Flavor Manufacturing Process, by T. Saka.
JAPANESE, per, Kogyo Kagaku Zasshi, Vol 64, No 11, 1961, pp 1995-1998.
NTC 69-11294-07A

Sci-Chem
July 69

386,989

Studies on Application of Spray Dry Process. Part III. Spray-Drying of Peperment Oil-Gum Arabic-Water Emulsion, by T. Saka.

JAPANESE, per, Kogyo Kagaku Zasshi, Vol 64, No 11, 1961, pp 1998-2001.

NTC 69-11292-07A

Sci-Chem
July 69

386,988

62-34453

Takami, Yasuo.
R₄S_n-TiCl₄ COMPLEX CATALYST FOR ETHYLENE
POLYMERIZATION AND THE POLYMER OBTAINED
BY THE CATALYST. Rept. 2 of Studies on
R₄S_n-TiCl₄ Complex Catalyst for Olefine Polymeriza-
tion. Oct 62 [13]p. (Figs. omitted) 4 refs.
Order from SA \$18.00 SA Code-G691

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64,
no. 11, p. 2049-2052.

DESCRIPTORS: *Ethylenes, Polymerization, Molecular
structure, *Complex compounds, *Catalysts, *Titanium
compounds, Chlorides.

(Chemistry--Physical, TT, v. 8, no. 12)

- I. Takami, Y.
- II. Title: Studies ...
- III. SA Code-G691
- IV. Seizaburo Aoki (Japan)

Office of Technical Services

62-14643

Nagase, Shunji, Baba, Hajime, and Kojima, Rimpel.
EFFECTS OF WATER ON THE PREPARATION OF
PERFLUOROCARBOXYLIC ACIDS BY ELECTRO-
CHEMICAL FLUORINATION. [1962] 7p. (4 tables
omitted) 10 refs.

Order from SLA \$1.10

Original copy poor quality; available on loan also

Trans. of [Kogyo Kagaku Zasshi] (Japan) 1961, v. 64,
no. 12, p. 2124-2126.

DESCRIPTORS: *Electrochemistry, Fluorination,
*Carboxylic acids, *Fluorides, Synthesis, Water,
Chemical reactions.

The purpose was to determine how a trace of water
(less than 1%) in anhydrous liquid hydrogen fluoride
affects the yield, the composition and electric current
efficiency on the preparation of perfluorocarboxylic
acids from ethyl alcohol, n-propyl alcohol, amyl
(Chemistry--Physical, TT, v. 8, no. 9) (over)

I. Nagase, S.
II. Baba, H.
III. Kojima, R.

Office of Technical Services

62-14642

Nagase, Shunji, Baba, Hajime, and Kojima, Rimpel.
PREPARATION OF PERFLUOROCARBOXYLIC ACID
FROM KETONES BY ELECTROCHEMICAL
FLUORINATION. [1962] 8p. (5 tables omitted) 10 refs.
Order from SLA \$1.10 62-14642
Original copy poor quality; available on loan also

I. Nagase, S.
II. Baba, H.
III. Kojima, R.

Trans. of [Kogyo Kagaku Zasshi] (Japan) 1961, v. 64,
no. 12, p. 2126-2128.

DESCRIPTORS: *Electrochemistry, Fluorination,
*Carboxylic acids, *Fluorides, Synthesis, *Ketones.

The yield of perfluorocarboxylic acid obtained from
ketones by the electrochemical fluorination was
excellent. Trifluoroethanoic acids are obtained from
acetone, acetyl acetone and ethyl acetoacetate. The
mixture of trifluoroethanoic and perfluoropropionic
acid were obtained from methyl ethyl ketone and
diethyl ketone. The mixture of perfluoropropionic
(Chemistry--Physica, TT, v. 8, no. 9) (over).

Office of Technical Services

Maruta, Senjiro and Suzuki, Yoshitiro.
ANALYSIS OF ALIPHATIC ALDEHYDES. Rept. 5 of
Studies on Carbonyl Compounds. Oct 62, 18p. 18 refs.
Order from SA \$21.00 SA Code-G719

Trans. in manuscript of Kogyo Kagaku Zasshi (Japan)
1961, v. 64, no. 12, p. 2129-2131.

DESCRIPTORS: *Aliphatic compounds, *Aldehydes,
Nitro radicals, Phenols, Hydrazines, Paper chromatog-
raphy, Ultraviolet spectroscopy.

(Chemistry--Analytical, TT, v. 8, no. 12)

62-34468

- I. Maruta, S.
- II. Suzuki, Y.
- III. Title: Studies ...
- IV. SA Code-G719
- V. Seizaburo Aoki (Japan)

Office of Technical Services

63-16276

Kato, Jiro, Wakamatsu, Hachiro and others.
EFFECTS OF SOLVENTS UPON THE OXO REACTION
OF ACRYLONITRILE. Rept. no. 1 of Studies on (Beta)
Cyanopropionaldehyde. [1963] 9p. (figs. tables omitted)
15 refs.
Order from SLA \$1.10 63-16276

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64,
no. 12, p. 2139-2142.

DESCRIPTORS: *Acrylonitriles, Oxo process,
*Glutamic acid, Solvent action, Synthesis (Chemistry),
Reduction (Chemistry), *Aldehydes, *Cyano radicals.

The effects of the solvents upon the oxo reactions of
acrylonitrile were investigated as the first stage for
the synthesis of glutamic acid from (beta) cyan propion
aldehyde through the oxo reaction of acrylonitrile.
Different from the ordinary olefines, the effect of the
(Chemistry--Organic, TT, v. 10, no. 7) (over)

- I. Title: β -Cyanopropional-
aldehyde
- I. Kato, J.
- II. Wakamatsu, H.
- III. Title: Studies . . .

Office of Technical Services

Kato, Jiro, Wakamatsu, Hachiro and others.
SYNTHESIS OF (BETA) CYANPROPIONALDEHYDE BY
OXO REACTION. Rept. no. 2 of Studies on (Beta)
Cyanpropionaldehyde [1963] 10p. (figs. tables omitted)
16 refs.

Order from SLA \$1.10

63-16277

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64,
no. 12, p. 2142-2145.

DESCRIPTORS: *Acrylonitriles, Oxo process,
*Glutamic acid, Solvent action, Synthesis (Chemistry),
Reduction (Chemistry), *Aldehydes, *Cyano radicals.

It was found that, in the oxo reaction of acrylonitrile,
there is less waste of (beta) cyan propion aldehyde in
connection with the decomposition of cobalt carbonyl
when such solvents as will carry out homomolecular
disproportionation with dicobalt carbonyl like Lewis
(Chemistry--Organic, TT. v. 10, no. 7) (over)

63-16277

I. Title: β -Cyanpropional-
dehyde

I. Kato, J.

II. Wakamatsu, H.

III. Title: Studies . . .

Office of Technical Services

62-16190

Nagase, S[hunji], Baba, H., and Kojima, R.
PREPARATION OF PERFLUORO CARBOXYLIC
ACIDS BY ELECTROCHEMICAL FLUORINATION OF
UNSATURATED COMPOUNDS. [1962] 8p. (8 tables,
6 refs. omitted) 2 refs.
Order from SLA \$1.10

I. Nagase, S.
II. Baba, H.
III. Kojima, R.

62-16190

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 1, p. 38-41.

DESCRIPTORS: *Carboxylic acids, Acids, *Fluorides,
Synthesis, Electrochemistry, Fluorination, Alcohols,
Esters, Ketones.

Perfluoro carboxylic acids have been obtained by elec-
trochemical fluorination of unsaturated compounds in-
cluding alcohols, esters, and ketones. Good yields of
perfluoro carboxylic acids have been obtained from
esters of unsaturated carboxylic acids just as from
saturated esters. Ethyl acrylate, butyl acrylate, and
(Chemistry--Physical, TT, v. 8, no. 9) (over)

Office of Technical Services

62-34461

Ide, Fumio.

GRAFT COPOLYMERIZATION OF STYRENE ON CELLULOSE. Rept. 11 of Investigation on Vinyl Polymerization. Oct 62, 9p. (figs. omitted) 4 refs.
Order from SA \$15.00 SA Code-G21

I. Ide, F.
II. Title: Investigation ...
III. SA Code-G21
IV. Seizaburo Aoki (Japan)

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65, no. 1, p. 88-92.

DESCRIPTORS: *Cellophane, *Styrenes, *Vinyl radicals, Copolymerization, Graft polymers, Catalysts, Nitric acid.

(Materials--Plastics, TT, v. 8, no. 12)

Office of Technical Services

Preparation of Polyamides From Cyanoethylated
Compounds of Bisphenols, by T. Anto, T. Imoto,
et al, 14 pp.
JAPANESE, per, Kogyo Kagaku Zasshi, Vol LXV,
No 1, 1962, pp 132-136.
ATS-60Q71J

Sci-Chem
March 64

252,099

Nakamura, J., Minegishi, J., and Omoto, Y.
PHOTOCHEMICAL CHLORINATION OF CYCLOHEXANE
[1964] 24p
Order from K-H \$14.40 K-H-11949-b

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 2, p. 201-205.

TT-64-12919

- I. Nakamura, J.
- II. Minegishi, J.
- III. Omoto, Y.
- IV. K-H-11949-b
- V. Kresge-Hooker Science
Library Associates,
Detroit, Mich.

(Chemistry--Organic, TT, v. 12, no. 1)

Office of Technical Services

Nakamura, J., Minegishi, J., and Omoto, Y.
FIEDEL-CRAFTS REACTION OF CYCLOHEXYL
CHLORIDE WITH BENZENE. [1964] 12p
Order from K-H \$7.50 K-H-11949-c

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65
[no. 2] p. 2064.

(Chemistry--Organic, TT, v. 12, no. 1)

TT-64-12918

I. Nakamura, J.
II. Minegishi, J.
III. Omoto, Y.
IV. K-H-11949-c
V. Kresge-Hooker Science
Library Associates,
Detroit, Mich.

Office of Technical Services

63-14716

Asahara, Shozo and Mitsuhashi, Keiko.
STUDIES ON THE INTERNAL PLASTICIZING
EFFECT OF THE COPOLYMERIZATION OF FATTY
ACID VINYL ESTERS WITH VINYL CHLORIDE.

Pt. 4 of Studies on Fatty Acid Vinyl Esters, [1963]

14p. 11 refs.

Order from SLA \$1.60

63-14716

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 2, p. 289-292.

DESCRIPTORS: *Plasticizers, *Fatty acids, Vinyl
radicals, Esters, *Polyvinyl chloride, *Vinyl
chlorides, *Copolymerization, *Phthalates, Fibers
(Synthetic), Molecular structure.

Several fatty acid vinyl ester-vinyl chloride copoly-
mers were prepared and their internal plasticizing
effects were deduced from their fusion points and
(Materials--Plastics, TT, v. 10, no. 5) (over)

- I. Asahara, S.
- II. Mitsuhashi, K.
- III. Title: Studies ...

Office of Technical Services

Ito, Yasuo and Kusano, Kazuhito.
SIMPLE DETERMINATION OF ZINC COMPOUND
DUST BY COLORING HALO METHOD. [1963] [11p]
(foreign text included)
Order from SLA \$1.60

TT-64-10189

Trans. of [Kogyo Kagaku Zasshi] (Japan) 1962, v. 65,
no. 3, p. 318-323.

DESCRIPTORS: *Zinc compounds, Particles, *Colori-
metric analysis, Potassium compounds, Cyanates,
Iron compounds, Ethyl radicals, Anilines, Gels,
Atmospheric pollution, Dusts,

(Chemistry--Analytical, TT, v. 11, no. 5)

TT-64-10189

- I. Title: Coloring halo
method
- I. Ito, Y.
- II. Kusano, K.

Office of Technical Services

Komori, Saburo and Nishio, Takashi.
RESEARCH FOR FLUOROALKYL PERMANENT WATER
AND OIL-REPELLENT CHEMICALS. [1962] 7p. (figs.
tables formula omitted) 7 refs.
Order from SLA \$1.10

62-18697

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 3, p. 368-370.

DESCRIPTORS: *Carbamates, *Fluorides, *Alkyl
radicals, Cotton textiles, Moistureproofing, *Oils,
Resistance, Textiles.

(Materials--Textiles, TT, v. 10, no. 2)

62-18697

I. Komori, S.
II. Nishio, T.

Office of Technical Services

TT-64-16184

Taniyama, Masakazu, Nagaoka, Takeshi, Takata,
Toshihiro, and Sayama, Kazumori.
PURIFICATION AND ALKALI-CATALYZED POLYMER-
IZATION OF α -PYRROLIDONE. Rept. 1 of Studies on
Polypyrrolidone (Nylon-4). [1964] 16p 13refs
Order from SLA \$1.60 TT-64-16184

- I. Taniyama, M.
- II. Nagaoka, T.
- III. Takata, T.
- IV. Sayama, K.
- V. Title: Studies ...

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 3, p. 415-418.

(Chemistry--Organic, TT, v. 12, no. 4)

Office of Technical Services

TT-64-16183

Taniyama, Masakazu, Nagaoka, Takeshi, Takata,
Toshihiro, and Sayama, Kazunori.
ALKALI-CATALYZED POLYMERIZATION OF
N-PYRROLIDONE IN THE PRESENCE OF N, N'-
ADIPYL-DIPYRROLIDONE. Rept. 2 of Studies on
Polypyrrolidone (Nylon-4). [1964] 13p 7refs
Order from SLA \$1.60 TT-64-16183

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 3, p. 419-422.

- I. Taniyama, M.
- II. Nagaoka, T.
- III. Takata, T.
- IV. Sayama, K.
- V. Title: Studies ...

(Chemistry--Organic, TT, v. 12, no. 4)

Office of Technical Services

TT-64-16186

Nagaoka, Takeshi, Takata, Toshihiro, Sayama,
Kazumori, and Taniyama, Masakazu.
ALKALI-CATALYZED POLYMERIZATION OF
-PYRROLIDONE IN ORGANIC SOLVENTS. Rept. 3
of Studies on Polypyrrolidone (Nylon-4). [1964] 17p
8 refs
Order from SLA \$1.60 TT-64-16186

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 3, p. 422-426.

- I. Nagaoka, T.
- II. Takata, T.
- III. Sayama, K.
- IV. Taniyama, M.
- V. Title: Studies ...

(Chemistry--Organic, TT, v. 12, no. 4)

Office of Technical Services

Nagaoka, Takeshi, Takata, Toshihiro, Sayama,
Kazumori, and Taniyama, Masakazu.
THERMAL STABILITY OF POLYPYRROLIDONE AND
THE VISCOSITY OF ITS SOLUTIONS USING CONCENTRATED
INORGANIC SALT WATER SOLUTIONS AS
SOLVENTS. Rept. 4 of Studies on Polypyrrolidone
(Nylon-4). [1964] 16p 14refs
Order from SLA \$1.60

TT-64-16187

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 3, p. 427-431.

(Materials--Textiles, TT, v. 12, no. 4)

TT-64-16187

- I. Nagaoka, T.
- II. Takata, T.
- III. Sayama, K.
- IV. Taniyama, M.
- V. Title: Studies ...

Office of Technical Services

Effect of Boron, Titanium and Lead Ions
on the Growth of Synthetic Mica Crystals,
by T. Matsushita.
JAPANESE, per, Kogyo Kagaku Zasshi, Vol 65,
1962, pp 501-507.
NTC-71-15068-20B

Feb 72

Kato, Jiro, Komatsu, Takashi and others.
CHEMICAL PROPERTIES OF (BETA)-CYANPROPION
ALDEHYDE. [1963] 14p. (formulas omitted) 17 refs.
Order from SLA \$1.60 63-16274

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 4, p. 548-551.

DESCRIPTORS: *Aldehydes, *Cyano radicals,
Chemical properties, Polymers, Polymerization,
Propionic acids, Oxidation.

(Chemistry--Organic, TT, v. 10, no. 5)

63-16274

I. Title: Cyanpropion
aldehyde

I. Kato, J.

II. Komatsu, T.

Office of Technical Services

63-16275

Kato, Jiro; Hayashi, Izumi and others.
PREPARATION OF AN AMMONIA AQUEOUS SOLUTION OF HYDROGEN CYANIDE AND ITS UTILIZATION: SYNTHESIS OF GLUTAMIC ACID FROM (BETA) CYAN PROPIONALDEHYDE. Rept. no. 5 of Studies on (Beta) Cyanpropionaldehyde. [1963] 13p. (figs. tables omitted) 15 refs.
Order from SLA \$1.60

63-16275

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65, no. 4, p. 552-556.

DESCRIPTORS: *Acrylonitriles, Oxo process,
*Glutamic acid, Solvent action, Synthesis (Chemistry),
Reduction (Chemistry), *Aldehydes, *Cyano radicals.

Hydrogen cyanide was synthesized in accordance with the Andrussov method which is ordinarily employed as a method for the industrial synthesis of hydrogen
(Chemistry--Organic, TT, v. 10, no. 7) (over)

- I. Title: δ -Cyanpropionaldehyde
- I. Kato, J.
- II. Hayashi, I.
- III. Title: Synthesis . . .
- IV. Title: Studies . . .

Office of Technical Services

TT-64-16185

Nagaoka, Takeshi, Takata, Toshihiro, Sayama,
Kazumori, and Taniyama, Masakazu.
WET-SPINNING AND FIBER PROPERTIES OF POLY-
PYRROLIDONE. Rept. 5 of Studies on Polypyrrolidone
(Nylon-4). [1964] 17p 10refs
Order from SLA \$1.60

TT-64-16185

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 4, p. 605-609.

(Materials--Textiles, TT, v. 12, no. 4)

- I. Nagaoka, T.
- II. Takata, T.
- III. Sayama, K.
- IV. Taniyama, M.
- V. Title: Studies ...

Office of Technical Services

[Tamura] Akio, Arai, Teijiro, and Murata [Jiro].
IONIC POLYMERIZATION OF DIHYDROPYRAN DERIVATIVES. Jan 64
Order from LSA \$10.25

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 4, p. 642.

TT-64-12327

- I. Tamura, A.
- II. Arai, T.
- III. Murata, J.
- IV. Literature Service Associates,
Bound Brook, N. J.

(Chemistry--Organic, TT, v. 12, no. 1)

Office of Technical Services

Shunsuke, Murahashi.
NEW SYNTHETIC POLYMERS. [1964] 28p
Order from K-H \$16.80 K-H-12425-a

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 5, p. 643-648.

(Chemistry--Organic, TT, v. 12, no. 1)

TT-64-12917

- I. Shunsuke, M.
- II. K-H-12425-a
- III. Kresge-Hooker Science
Library Associates,
Detroit, Mich.

Office of Technical Services

Okada, Masahiko.
POLYMERIZATION OF 1,3-DIOXOLANE. [1964] 18p
Order from K-H \$10.80 K-H-12425-c

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 5, p. 691-695.

TT-64-12923

- I. Okada, M.
- II. K-H-12425-c
- III. Kresge-Hooker Science
Library Associates,
Detroit, Mich.

(Chemistry--Organic, TT, v. 12, no. 1)

Office of Technical Services

Fujii, Hiroyasu, Saegusa, Takao, Furukawa, Junji.
STEREOBLOCK POLYMERIZATION OF ACETALDE-
HYDE. Jan 64
Order from LSA \$20.00

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 5, p. 695-698.

DESCRIPTORS: *Acetaldehydes, Polymerization,
Stereochemistry

(Chemistry--Organic, TT, v. 11, no. 11)

TT-64-12325

- I. Title, Stereoblock
polymers
- I. Fujii, H.
- II. Saegusa, T.
- III. Furukawa, J.
- IV. Literature Service
Associates, Bound
Brook, N. J.

Office of Technical Services

Saegusa, Takeo, Imai, K., Hirai, Setusuo, and
Furukawa, J.
COPOLYMERIZATION OF TETRAHYDROFURAN AND
3,3-BIS(CHLOROMETHYL) OXACYCLOBUTANE. [1964]
16p
Order from K-H \$9.60 K-H-12425-e

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 5, p. 699-702.

(Chemistry--Organic, TT, v. 12, no. 1)

TT-64-12927

- I. Saegusa, T.
- II. Imai, K.
- III. Hirai, S.
- IV. Furukawa, J.
- V. K-H-12425-e
- VI. Kresge-Hooker Science
Library Associates,
Detroit, Mich.

Office of Technical Services

TT-64-12924

Okamura, Seizo, Higashimura, Toshinobu, and
Tomikawa, Masaya.
POLYMERIZATION OF TRIOXANE CATALYZED BY
CATIONIC CATALYST. [1964] 20p
Order from K-H \$12.00 K-H-12425-f

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 5, p. 712-716.

I. Okamura, S.
II. Higashimura, T.
III. Tomikawa, M.
IV. K-H-12425-f
V. Kresge-Hooker Science
Library Associates,
Detroit, Mich.

(Chemistry--Organic, TT, v. 12, no. 1)

Office of Technical Services

R-4197-D

Radiation-Induced Polymerization of Crystalline
Copolymers, by Yomeho Tabata, et al.

JAPANESE, per, Kogyo Kagaku Zasshi, Vol LXV,
1962, pp 737-740.

*JPRS/Diamond Labs.

June 64

63-10083

Takahashi, Toru.

CALCULATION OF THE VAPOR-LIQUID EQUILIBRIUM FOR THE AMMONIA-CARBON DIOXIDE GAS-WATER SYSTEM BY VAN LAAR'S EQUATION. Rept. 2

of Phase Equilibrium Studies on the Ammonia-Carbon Dioxide Gas-Water System. [1962] 22p. 27 refs.

Order from SLA \$2.60

63-10083

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65, no. 6, p. 837-843.

DESCRIPTORS: *Phase studies, *Chemical equilibrium, Ammonia, Carbon dioxide, Water, Carbamates, Vapors, Liquids, Determination, Activity coefficient.

(Chemistry--Physical, TT, v. 10, no. 9)

- I. Title: van Laar equation
- I. Takahashi, T.
- II. Title: Phase ...

Office of Technical Services

Ishii, Y., Sekiguchi, S., and Hayakawa, A.
THE MOLAR DISTRIBUTION OF ALCOHOL-ETHYLENE
OXIDE ADDUCTS. [1963] [14p] 11 refs
Order from SLA \$1.60 TT-63-20245

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
p. 1041-1044. (Abstract available)

DESCRIPTORS: *Surface-active substances, *Alcohols,
*Ethylene oxide, Gas chromatography, Catalysts,
Sodium

The molar distribution, which governs the nature of
nondonic surfacants (surface emulsifiers), was studied,
using gas chromatography, for the ethylene oxide ad-
ducts of eight $C_1 \sim C_4$ alcohols, prepared at 100° and
130°C using metallic sodium as a catalyst. From these
experimental results the distribution constants c of
Weibull and Nycander were obtained, and it was found
that the main factors governing the c -value are the
(Chemistry--Organic, TT, v. 11, no. 2) (over)

TT-63-20245

- I. Title: Adducts
- I. Ishii, Y.
- II. Sekiguchi, S.
- III. Hayakawa, A.

Office of Technical Services

NCH-200 991

Field 7A

Mizorogi, T.; Nakayama, M.; Ando, Y.; Furumi, M.
BATCH SYNTHESIS OF ACETIC ACID IN AN AUTOCLAVE
UNDER HIGH PRESSURE FROM CARBON MONOXIDE
AND METHANOL WITH COBALT ACETATE AND
POTASSIUM IODIDE AS CATALYST. Rept. no. 1 of
Studies on the Reaction of Methanol with Carbon Monoxide
with Metal Carbonyl Catalysts. 23 Apr 65, 18p
(figs omitted) 5 refs. SA-KKZ-65-7-1.
Order from SA: \$25.00 as SA-KKZ-65-7-1

Trans. of Kogyo Kagaku Zasshi (Japan) v65 n7 p1049-54
1962.

I. Title: Studies ...
II. Seizaburo Aoki,
Fujisawa (Japan)

NCH-200 990

Field 7A

Mizorogi, T.; Nakayama, N.; Furumi, S.
MEASUREMENT OF THE REACTION RATE OF ACETIC
ACID SYNTHESIS UNDER HIGH PRESSURE FROM CARBON
MONOXIDE AND METHANOL WITH COBALT ACETATE
AND POTASSIUM IODIDE AS CATALYST. Rept. no. 2
of Studies on the Reaction of Methanol and Carbon Monoxide
with the Metal Carbonyl Catalysts. 23 Apr 65, 24p, 3 refs.
SA-KKZ-65-7-2.
Order from SA: \$25.00 as SA-KKG-65-7-2

Trans. of Kogyo Kagaku Zasshi (Japan) v65 n7 p1054-8 1962.

I. Title: Studies ...
II. Seizaburo Aoki,
Fujisawa (Japan)

Saotome, K.
SYNTHESIS OF ϵ -CAPROLACTAM FROM
1, 1, 1, 5-TETRACHLOROPENTANE [1963] 6p.
Order from ATS \$10. 50 ATS-85Q66J

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 7, p. 1059-1061.

DESCRIPTORS: *Lactams, Synthesis, Chlorides,
Pentanes,

(Engineering--Chemical, TT, v. 9, no. 9)

63-12813

- I. Title: Caprolactam
- I. Saotome, K.
- II. ATS-85Q66J
- III. Associated Technical
Services, Inc., East
Orange, N. J.

ATS-3846

Office of Technical Services

Production of Cobalt Trifluoride, by Nobuatsu Watanabe,
11 pp.
JAPANESE, per, Kogyo Kagaku Zasshi, Vol LXV,
1962, pp 1168-1170. 9222644
AEC-UCRL-Tr-1043(L)

Sci-Mat & Met
Jun 64

260,942

63-16423

Fukui, Kenichi; Yoneda, Shigeo and others.
SYNTHESIS OF ORGANIC FLUORINE COMPOUNDS
BY THE USE OF POTASSIUM FLUORIDE. Rept.
no. 8 of Studies on Organic Synthesis Reactions Using
Inorganic Salts. [1963] 13p. 32 refs.
Order from SLA \$1.60 63-16423

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 8, p. 1179-1182.

DESCRIPTORS: *Fluorides, *Potassium compounds,
*Amides, *Glycols, Alkyl radicals, Esters, Solvents,
Butanes, Benzyl radicals, Acetates, Ethyl radicals,
Synthesis (Chemistry).

In the method of synthesizing organic fluorine com-
pounds by the reaction between organic halogen com-
pounds and potassium fluoride, the effects of glycols
and acid amides as solvents of the reaction were com-
pared, and in particular, the relationship between the
(Chemistry--Organic, TT, v. 10, no. 7) (over)

I. Fukui, K.
II. Yoneda, S.
III. Title: Studies....

Office of Technical Services

Kageyama, Ikuzo, Katsushima, Atsuo and others.
RESEARCH FOR OIL AND WATER REPELLENTS.
[1962] 13p. (figs. tables refs. omitted) 1 ref.
Order from SLA \$1.60

62-20485

Trans. of [Kogyo Kagaku Zasshi] (Japan) 1962, v. 65,
no. 8 [p. 1207-1210].

DESCRIPTORS: Scientific research, Oils, Water, Textiles, *Protective treatments, *Moisture proofing, Fluorides, Polymers, Chlorides, Coatings, Alkyl radicals, Molecular structure

A series of compounds were synthesized employing $\text{P}(\text{CF}_2)_n$, $\text{H}(\text{CF}_2)_n$, and $\text{Cl}(\text{CF}_2\text{CFCl})_n$ as polyfluoroalkyl radicals (hereinafter will be called Rf) and by combining them with various polar groups. Oil and water repellence of cotton gauze which was coated by proper means with these compounds were measured. The repellency of these compounds were compared re-
(Materials--Textiles, TT, v. 10, no. 2) (over)

62-20485

I. Kageyama, I.
II. Katsushima, A.

ATS-09Q 71J

Office of Technical Services

AEC-UCRL-TT-1044(L)

Sci-Mat & Mer
Sep 64

265,862

Research on the Transition of Polytetrafluoro-Ethylene at
1300°C, by T. Satokawa, S. Koizumi, 6 pp.
JAPANESE, per, Kogyo Kagaku Zasshi, Vol LXV, 1962,
pp 1211-1213. 9226327
AEC-SC-T-64-2008

Sci-Chem
Jan 65

272,456

Tagawa, K., Iimo, S., and Ohta, H.
THE FRACTIONATION OF NONIONIC SURFACTANTS
BY MOLECULAR DISTILLATION. Pt 1 of Molecular
Distillation and Properties of Nonionic Surfactants.
[1963] 20p 7refs

Order from SLA \$1.60

63-20244

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
p. 1260-1265.

DESCRIPTORS: *Distillation, *Surface-active sub-
stances, Ethylene oxide, Molecules, Distilling plants,
Statistical distributions, Stearic acids, Centrifuges.

The ethylene oxide adducts of four different compounds,
i.e. the adduct of nonyl-phenol containing an average of
7.5 moles ethylene oxide, the adduct of octylphenyl,
with an average of 10 moles, the adduct of oleyl alcohol
with an average of 7 moles and the stearic acid adduct
(Engineering--Chemical, TT, v. 10, no. 12) (over)

63-20244

- I. Tagawa, K.
- II. Iimo, S.
- III. Ohta, H.
- IV. Title: Molecular . . .

Office of Technical Services

Preparations and Electrical Conductivities of
Polyvinylanthracene and of its Molecular Complexes,
by H. Inoue.

JAPANESE, per, Kogyo Kagaku Zasshi, Vol 65, No 8,
1962, pp 1286-1290.

NTC-71-15513-07D

AEC - ACL - E-498 - 173p

Feb 72

Koyanagi, S.
TELOMERIZATION OF VINYL CHLORIDE IN
CARBON TETRACHLORIDE. [1964] 10p
Order from K-H \$6.00 K-H-12641
Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
p. 1388-1390.

(Chemistry--Organic, TT, v. 12, no. 1)

TT-64-12916

I. Koyanagi, S.
II. K-H-12641
III. Krege-Hooker Science
Library Associates,
Detroit, Mich.

Office of Technical Services

63-20062

Funatsu, Minoru, Ineda, Masami, and Kita, Hisahiro.
THE CATALYTIC PROPERTIES OF TERTIARY
AMINES IN THE FORMATION OF POLYURETHANE.
[1963] [10p] 16refs
Order from SLA \$1.60

63-20062

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 9, p. 1426-1430.

DESCRIPTORS: *Isocyanate plastics, *Amines,
*Catalysis, Catalysis, Glycols, Ethylenes, Chemical
analysis,

The catalytic properties of various tertiary amines in
the formation of polyurethane are discussed from the
point of view of the catalytic constant derived from
the reaction rate. For the formation of polyurethane,
toluene diisocyanate was allowed to react with di-
ethylene glycol, propylene glycol, and polypropylene
(Materials--Plastics, TT, v. 10, no. 11) (over)

I. Funatsu, M.
II. Ineda, M.
III. Kita, H.

Office of Technical Services

Usami [Shoji] and Taketomi, Noboru.
COMPARISON OF MOLASSES AND GLUCOSE MEDIA
FOR CITRIC ACID FERMENTATION. [1963] [10p]
6refs
Order from SLA \$1.10

63-18870

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 10, p. 1603-1605.

DESCRIPTORS: *Glucose, *Citric acids, Molds, *Fer-
mentation, Ash, *Culture media, Potassium, Iron

A study was made of acid formation in citric acid fer-
mentation using *Asp. niger*. in molasses (Taiwan
molasses) and glucose media. In molasses medium,
the consumption of oxygen in the early stage of the cul-
tivation is fairly bigger and the starting time of acid
formation is earlier than those in glucose medium due
to the abundant nourishment in the medium. But the
amount of citric acid formed is very low and oxalic
(Biological Sciences--Biochemistry, TT, v. 10, no. 11)
(over)

63-18870

- I. Title: Molasses
- I. Usami, S.
- II. Taketomi, N.

Office of Technical Services

Fuel Cells Using Organic Redox Compounds, by
Jun Mizuguchi, Shuichi Suzuki.
JAPANESE, per, Kogyo Kagaku Zasshi, Vol 65, No 10,
1962, pp 1606-1608.
Tr No 56, Oct 1969
AIR/AFCL/69-0425

Sci/Chem
Jan 70

400,107

The Correlation Between the Molecular
Structure of Polyvinyl Chloride and Its
Combustion Products, by Sugio Otani.
JAPANESE, per, Kogyo Kagaku Zasshi, Vol
65, No 10, pp 1617-1622.
NASA TT F-12,029

Sci-Chem
Mar 69

377,553

63-12829

Inoue, H., Hayashi, S. and others.
SYNTHESIS OF ELECTRICALLY CONDUCTIVE
CHELATE POLYMERS. [1963] 9p.
Order from ATS \$13.25

ATS-02Q67J

AEC-SCL-T-503

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 10, p. 1622-1623.

DESCRIPTORS: *Polymers, *Chelate compounds,
Synthesis, Electrical conductance.

I. Inoue, H.
II. Hayashi, S.
III. ATS-02Q67J
IV. Associated Technical
Services, Inc., East
Orange, N. J.

ATS JT-4022

(Chemistry--Organic, TT, v. 9, no. 9)

Office of Technical Services

Radiation-Induced Copolymerization of Tetrafluoroethylene and Propylene at Low Temperature, by Yomeho Tabata, et al.

JAPANESE, per, Kogyo Kagaku Zasshi, Vol LXV, 1962, pp 1626-1629.

*JPRS/Diamond Labs

June 64

Saito, Hisahiko; Sugihara, Makoto, and Saito, Minoru.

FORMATION OF FERRITE MICROPOWDERS OF SPINEL TYPE. Studies on the Formation of Ferrites from Solutions, I. [1963] 16p. 14 refs.

Order from SLA \$1.60

63-14499

Trans. of [Kogyo Kagaku Zasshi] (Japan) 1962, v. 65, p. 1748-1753.

DESCRIPTORS: *Ferrites, Powders, Solutions, Reaction kinetics, Synthesis (Chemistry), Physical chemistry, Hydrogen ion concentration.

A method is given for forming numerous ferrite micro-powders of spinel type that were formerly difficult to obtain in the temperature range of 50 ~ 60°C to approximately 100°C. It was found that the concentration of excess alkali plays an important role in the formation (Chemistry--Physical, TT, v. 10, no. 11) (over)

63-14499

- I. Saito, H.
- II. Sugihara, M.
- III. Saito, M.
- IV. Title: Studies . . .

Office of Technical Services

Synthesis of Sodium and Potassium Titanates of
Fibrous Form by Hydrothermal Reaction, by
Fumio MOTO, Minoru KUNITAKI, 19 pp.
JAPANESE, per, Kogyo Kagaku Zasshi, Vol 65,
1962, pp 1775-1779. F911279867
AEC SC-T-67-0933

336,986

Sci - Materials
Sep 67

Properties of Sodium Aluminate Solutions, by J.
Shimisato,
JAPANESE, per, Kogyo Kagaku Zasshi, Vol LXV, No 11,
1962, pp 1779-1782.
ATS 54R79J

Sept 66

309,075

Yamaki, Kiyoshi.

INTERACTION BETWEEN IONIC DYESTUFFS OF
OPPOSITE ELECTRIC CHARGES. [1963] 10p
(figs. tables omitted) 6refs
Order from SLA \$1.10

63-18514

Trans. of [Kogyo Kagaku Zasshi] (Japan) 1962,
v. 65 [no. 11] p. 1861-1865.

DESCRIPTORS: *Dyes, *Chemical reactions, Ions,
*Methylene blue, Methanes, Complex compounds,
Vinyl chlorides, Surface-active substances, Surface
tension, Absorption spectrum, Chemical bonds,
Fibers (Synthetic).

The aqueous solutions of ionic dyestuffs of opposite
electric charges, orange II (anion and methylene blue
(cation), were mixed. To examine the interaction
which then takes place between these dyestuffs, the
(Chemistry--Organic, TIT, v. 10, no. 11) (over)

63-18514

1. Title: Orange II
I. Yamaki, K.

Office of Technical Services

Hirooka, M. Yuasa, Yukio, and Fukui, Kenichi.
PROPERTIES AND BEHAVIOR OF ACTIVE BODY IN
ETHYLENE-POLYMERIZATION WITH VANADIUM (V)
OXYCHLORIDE-ALUMINUM CATALYZER. Pt. 3 of
High Polymerization of Olefins with Lewis-Acid-Metal-
[IIC] Catalyst. [1963] 16p 8refs
Order from SLA \$1.60

63-18858

Trans. of [Kogyo Kagaku Zasshi] (Japan) 1962, v. 65,
no. 11, p. 1865-1868.

DESCRIPTORS: *Polyethylene plastics, Preparation,
*Ethylenes, *Polymerization, *Vanadium catalysts,
Vanadium compounds, *Oxychlorides, *Aluminum, Re-
action kinetics, Complex compounds.

An ethylene polymerization was conducted at a constant
pressure in the presence of vanadium (V)-oxychloride-
aluminum as catalyst and the properties of the active
(Chemistry--Physical, TT, v. 10, no. 11) (over)

63-18858

I. Hirooka, M.
II. Yuasa, Y.
III. Fukui, K.
IV. Title: High ...

Office of Technical Services

Hirooka, M. and Fukui, Kenichi.
AN EXAMINATION OF THE POLYMERIZATION
MECHANISM OF ETHYLENE BY CATALYST VANA-
DIUM(V)-OXYCHLORIDE ALUMINUM. Pt. 4 of High
Polymerization of Olefins with Lewis Acid-Metallic
Catalyst. [1963] 28p (refs omitted) 7refs
Order from SLA \$2.60

63-18857

Trans. of [Kogyo Kagaku Zasshi] (Japan) 1962, v. 65,
no. 11, p. 1869-1874.

DESCRIPTORS: *Polyethylene plastics, Preparation,
*Ethylenes, *Polymerization, *Vanadium catalysts,
Vanadium compounds, *Oxychlorides, *Aluminum, Re-
action kinetics, Complex compounds.

The characteristics of the polymerization of ethylene
with the use of the catalyst vanadium(V) oxychloride-
aluminum and the behavior of the catalyst were studied
and an examination was made of the characteristics of
(Chemistry--Physical, TT, v. 10, no. 10) (over)

63-18857

I. Hirooka, M.
II. Fukui, K.
III. Title: High ...

Office of Technical Services

Bansho, Yoshie; Suzuki, Shigeru and others.
RELATIONSHIP OF STRUCTURE TO CRYSTALLINE
TRANSFORMATION GROWTH IN MIXED PHTHALO-
CYANINE PIGMENTS. PT. 3 of Phthalocyanine Organic
Pigment Study. [1963] 10p. 2 refs.
Order from SLA \$1.10

63-16644

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65,
no. 12, p. 2005-2009.

DESCRIPTORS: *Phthalocyanines, *Pigments, *Copper
compounds, *Crystallization, *Transformations,
Crystal structure, Cobalt compounds, Iron compounds,
Titanium compounds, Chlorides.

Crystals of metastable copper phthalocyanine undergo
crystalline transformation in an aromatic solvent and
grow into stable elongated needle crystals. In order to
improve this property, mixed pigments were prepared
(Physics--Solid State, TT, v. 10, no. 7) (over)

63-16644

- I. Bansho, Y.
- II. Suzuki, S.
- III. Title: Phthalocyanine...

Office of Technical Services

Banaho, Yoshie, Sekiguchi, Tazuo, and Suzuki,
Shigeru.
SYNTHESIS OF COPPER PHTHALOCYANINE SUL-
FATE AND ITS PROPERTIES. Rept. 5 of Studies of
Phthalocyanine Organic Pigments. [1963] [17p] 8 refs.
Order from SLA \$1.60 63-18741

Trans. of Kogyo Kagaku Zasshi (Japan) [1962] v. 65,
no. 12, p. 2015-2017.

DESCRIPTORS: *Dyes, *Organic pigments, *Phthalocyanines, Copper compounds, Sulfates, Metalorganic compounds, Synthesis (Chemistry), Chemical properties, Physical properties, Molecular structure, X-ray diffraction analysis, Infrared spectroscopy

When copper phthalocyanine reacts with undiluted sulfuric acid in suitable organic solvents the sulfate is separated. The sulfate was separated in pure form by removing the sulfuric acid attached to its crystals. In (Chemistry--Organic, TT, v. 10, no. 11) (over)

63-18741

- I. Title: Copper phthalocyanine sulfate
- I. Banaho, Y.
- II. Sekiguchi, T.
- III. Suzuki, S.
- IV. Title: Studies...

Office of Technical Services

Bansho, Yoskie, Suzuki, Shigeru and others.
SYNTHESIS OF BROMINE-SUBSTITUTED COPPER
PHTHALOCYANINES AND THEIR STABILITY AS
PIGMENTS. Rept. 8 of Studies on Phthalocyanine
Organic Pigments. [1963] [17]p. 11 refs.
Order from SLA \$1.60

63-18512

Trans. of Kyoto Kagaku Zasshi (Japan) 1962, v. 65,
no. 12, p. 2027-2032.

DESCRIPTORS: *Dyes, *Organic pigments, *Metal-
organic compounds, *Copper compounds, *Phta-
locyanines, *Bromides, Synthesis (Chemistry),
Phthalic anhydride, Bromination, Metallation, Physical
properties, Chemical properties.

Studies were made on the method of synthesizing
pigments, in which the aromatic nucleus of copper
phthalocyanines is substituted with 1-16 bromine
(Chemistry--Organic, TT, v. 10, no. 11) (over)

63-18512

- I. Title: Bromo copper
phthalocyanines
- I. Bansho, Y.
- II. Suzuki, S.
- III. Title: Studies ...

Office of Technical Services

Potential of Synthetic Vinyl Fibers and Their Surface Charge Densities, by K. Yamaki.
JAPANESE, per, Kogyo Kagaku Zasshi, Vol 65, No 12, 1962, pp 2036-2042.
NTC 69-11291-11E

ATS-J. 304

Sci-Mat
July 69

387,121

Studies of Antistatic Agents for PVC. Part I.,
by T. Yamamoto.
JAPANESE, per, Kogyo Kagaku Zasshi, Vol 66, 1963.
NTC-71-16224-11I

Jan 72

Kamio, K., Kojima, S., and Daimon, H.
POLYMERIZATION OF ALDEHYDES. [1963] 7p.
Order from ATS \$9.25 ATS-95Q69]

Trans. of Kogyo Kagaku Zasshi (Japan) 1963, v. 66,
no. 2, p. 246-249.

DESCRIPTORS: *Aldehydes, *Polymerization.

(Chemistry--Organic, TT, v. 10, no. 6)

63-17780

I. Kamio, K.
II. Kojima, S.
III. Daimon, H.
IV. ATS-95Q69]
V. Associated Technical
Services, Inc.,
East Orange, N. J.

ATS JJ-3815

Office of Technical Services

63-22153

Kawai, W.
COPOLYMERIZATION OF PROPYLENE WITH
ACRYLONITRILE. [1963] 6p.
Order from ATS \$9.25 ATS-96Q69]

Trans. of Kogyo Kagaku Zasshi (Japan) 1963, v. 66,
no. 2, p. 249-252.

DESCRIPTORS: *Polyethylene plastics, *Acrylic
resins, *Propenes, *Acrylonitriles, Copolymerization.

(Materials--Plastics, TT, v. 10, no. 9)

I. Kawai, W.
II. ATS-96Q69]
III. Associated Technical
Services, Inc.,
East Orange, N. J.

Office of Technical Services

Mechanism of Delignification in Alkaline Sulfite
Cooking, by I. Sakata.
JAPANESE, per, Kogyo Kagaku Zasshi, Vol 66, No 2,
1963, pp 272-275.
NTC-71-16210-11L

Jan 72

63-18909

Yoshimi, Naoki, Yamao, Masayoshi, Kawakita,
Masayuki, and Tanaka, Shigeyuki.
CONSIDERATIONS ON THE HARDENING REACTION
OF METHYLOLMELAMINE BY GAS CHROMATOGRAPHY
AND INFRARED ABSORPTION SPECTROSCOPY. [1963] 12p 13refs
Order from SLA \$1.60

63-18909

Trans. of Kogyo Kagaku Zasshi (Japan) 1963, v. 66,
no. 2, p. 279-283.

DESCRIPTORS: *Melamine-formaldehyde resins.
*Thermosetting plastics, *Melamine, *Amino plastics,
*Amines, *Methyl radicals, Hardening, Heat treatment,
Gas chromatography, Infrared spectroscopy,
Condensation reactions

In order to determine the mechanism of the heat-
hardening reaction of methylolmelamine, the gaseous
substance which evolves from a heated sample was
(Materials--Plastics, TT, v. 10, no. 10) (over)

1. Title: Methylolmelamine
- I. Yoshimi, N.
- II. Yamao, M.
- III. Kawakita, M.
- IV. Tanaka, S.

Office of Technical Services

Decomposition of Monazite Concentrate by Sodium
Hydroxide, by Katsumata, Shigeru, Tokumoto,
10 pp.

JAPANESE, per, Kogyo Kagaku Zasshi, 1963, vol
66, no 3, pp 324-326.
SLA TT 64-18102

Jul 66

305,453 6

Noda, Hideo, Tatzuno, Toshio, and Fukui, Kenichi.
REACTION OF C₄-OLEFINS AND FORMALDEHYDE.
[1964] 17p
Order from K-H \$10.20

K-H-12963

Trans. of Kogyo Kagaku Zasshi (Japan) 1963, v. 66,
no. 3, p. 348-351.

(Chemistry--Organic, TT, v. 12, no. 1)

TT-64-12921

- I. Noda, H.
- II. Tatzuno, T.
- III. Fukui, K.
- IV. K-H-12963
- V. Kresge-Hooker Science
Library Associates,
Detroit, Mich.

Office of Technical Services

Fujio, R., Tsuruta, T., and Furukawa, J.
ANIONIC POLYMERIZATION OF VINYL KETONES.
Rept. 24 of Researches for Polymerization Reactions
by Organic Metallic Compounds. [1963] 10p 10refs
Order from SLA \$1.10 TT-63-20687

Trans. of [Kogyo Kagaku Zasshi] (Japan) 1963, v. 66,
no. 3, p. 368-369. (Abstract available)

DESCRIPTORS: *Vinyl plastics, Plastic films, *Vinyl
radicals, Methyl radicals, Propyl radicals, Phenyl
radicals, *Ketones, *Polymerization, Catalysts,
*Metalorganic compounds, Metallic compounds, Ethyl
radicals.

By anionic polymerization of several kinds of vinyl
ketones (methyl vinyl ketone, phenyl vinyl ketone and
methyl isopropenyl ketone) the possibilities of stereo-
(Materials--Plastics, TT, v. 11, no. 3) (over)

TT-63-20687

1. Title: Polymethyl
isopropenyl ketone
2. Title: Polymethyl vinyl
ketone
3. Title: Polyphenyl vinyl
ketone
- I. Fujio, R.
- II. Tsuruta, T.
- III. Furukawa, J.
- IV. Title: Researches . . .

Office of Technical Services

Nishizaki, Shunichiro and Fukami, Akira.
DIFFERENTIAL THERMAL ANALYSIS OF AROMATIC
POLYIMIDES. [1964] 7p (figs tables formulae refs
omitted)

Order from SLA \$1.10

TT-64-10958

Trans. of Kogyo Kagaku Zasshi (Japan) 1963, v. 66,
no. 3, p. 332-336.

(Chemistry--Physical, TT, v. 11, no. 12)

TT-64-10958

I. Nishizaki, S.
II. Fukami, A.

Office of Technical Services

Solid State Reactions of the Titanium-Oxide
Zinc-Oxide System, by Toruichiro Kubo and
Masunori Kato, et al,

GOVERNMENT USE ONLY

JAPANESE, per, Kogyo Kagaku Zasshi, Vol. LVI,
No 4, 1963, pp 403-407. P200094067
RSIC-641

Sci-Chem
Apr 67

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